

U.S. Department of Energy  
Office of Fissile Materials  
c/o SUPPLEMENT to the SPD EIS  
P.O. Box 23786  
Washington, D.C. 20026-3786  
Attention: Office of NEPA Compliance  
facsimile: 1-800-820-5156

June 28, 1999

Dear Administrator:

Please consider this correspondence part of the official record of proceedings on the SUPPLEMENT TO THE SURPLUS DISPOSITION DRAFT ENVIRONMENTAL IMPACT STATEMENT, DOE/EIS-0283-DS submitted during public comment period.

Although I was unable to attend the June 15, 1999 public hearing on the above-referenced agency proceedings, I appreciate notification in advance of hearing as I have been an interested party in agency decision-making process. Due to demands from other matters, these comments will address major issues and concerns rather than specifically reference the entire document presented for public review. Areas of concern include:

I. THE AGENCY'S PROCEDURE FOR DECLARING SOME 50 METRIC TONS OF PLUTONIUM EXCESS TO AGENCY NEEDS. (See Attachment I.) Furthermore, the agency has considerable vested financial program-wide interest in the considerable funds generated by the "sale" and/or "transfer" of the Pu to private, commercial interests for MOX nuclear power plant fuel. "Hybrid Alternative" (disposal as waste of some of the Pu declared excess to program needs along with "recycling" of some allows for multitudes of options by both commercial interests in the property and the agency.

II. The agency and the electricity utility industry have considerable options by identifying "hybrid alternative" in the process. Due to some uncertainty in the legality of passing "stranded costs" (particularly the investments in nuclear power) on the electric utility consumers, the hybrid option appears to offer considerable advantage to the nuclear utility investors as final decisions on such stranded utility costs are being made. The agency is mandated to consider the financial impacts of decisions made in regard to such monetarily valuable "excess" property.

III. DOE has identified three facilities required for "hybrid alternative" implementation: 1) pit disassembly and conversion, 2) immobilization, and 3) MOX fuel fabrication. DOE has, should final decision as it appears from Draft EIS Supplement, determined to construct and operate BOTH AN IMMOBILIZATION FACILITY which requires disposal site(s) AND A MOX FUEL FABRICATION FACILITY which can be predicted to result in considerable environmental impact during both operational and shutdown phases. Obviously, a MOX fuel fabrication facility requires considerable investment (presumably of public funds by DOE) for construction, operation, shutdown, as well as, disposal of radioactive waste generated by the operations. DOE is respectfully requested to consider the amounts of hazardous, toxic, and radioactive wastes to be generated by the processes in its "recycling" decision. MOX fuel fabrication, in total, adds considerable expenditure of public funds directly and indirectly with considerable benefit to the nuclear/electric utility industry.

FR013

## FR013-1

## MOX Approach

To demonstrate the United States' commitment to the objectives of the *Joint Statement by the President of the Russian Federation and the President of the United States of America on Non-proliferation of Weapons of Mass Destruction and the Means of Their Delivery*, President Clinton, in January 1994, declared fissile materials, including 50 t (55 tons) of plutonium, to be surplus to U.S. nuclear defense needs. The way in which DOE determined the specific plutonium to be declared surplus is different from the way in which DOE determines how buildings, facilities and equipment are surplus. DOE's methods for determining excess or surplus property is not within the scope of this SPD EIS.

The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel fabrication cost exceeds the cost of the LEU fuel that it displaced, the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. Financial considerations are part of the decisionmaking process; however, this EIS does not address cost issues. Rather, it evaluates the potential health, safety and environmental impacts of the proposed activities. Cost considerations are discussed in *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998). This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

## FR013-2

## Cost

As shown in the cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), it is expected that the hybrid approach, which includes both immobilization and MOX fuel, would be more expensive than the immobilization-only approach. However, pursuing the hybrid approach provides the United States important insurance against potential disadvantages of implementing

IV. DOE decision-making process has identified six (6) site specific reactors for the use of MOX fuel. DOE contention that "no construction on the proposed MOX fuel facility would begin before an SPD EIS ROD is issued" (COVER SHEET: DOE/EIS-0283-DS) apparently means that site-specific construction public notice only remains in the implementation process. DOE has already made and announced decisions which require construction with considerable lack of public review and oversight in the process. DOE should be integrating the environmental impacts of siting any such facility into the process rather than make decisions which REQUIRE THE FACILITY! DOE is herein requested to do so in final EIS.

V. The agency has essentially passed the "safety" to workers and general public within 50 mile radius of the proposed six MOX reactor sites to the Nuclear Regulatory Commission. DOE should not narrow its review and consideration of safety issues based upon NRC's authority to license nuclear reactors. NRC has determined that "public participation" in NRC nuclear power plant licensing be limited to ONLY parties living within a 50 mile radius of each facility. NRC has no authority to limit public participation by citizens, taxpayers, and interested parties in the process, although the commission already appears to have granted itself the authority. DOE cannot "tailgate" on NRC licensing of these six (or some of the six) nuclear generating facilities to implement NEPA when DOE has cause to know in advance that fully informed public participation has already been removed from NRC process.

VI. DOE has presented "risk factors" to nuclear power plant workers and the general public from normal operations which suggest simultaneously that environmental releases and radiological exposures will increase from normal plant operations if MOX fuel is used, and no "significant" risks to workers and/or the general population will result. How many increases in fatal cancers and/or other related diseases does DOE intend to permit as "insignificant impacts" from MOX fuel plant operations?

Furthermore, DOE acknowledges that fatalities among the general population will increase should nuclear accident occur at these facilities should the MOX fuel proposal be implemented. Increase or likely increase in fatalities among the general population resulting from accident (particularly worst case scenario, as DOE is mandated to consider) are not easily reconciled with "insignificant" impacts to human health and the environment. Any probability of increase in fatalities must be considered by DOE as "significant" in final EIS, otherwise DOE actions result in "lowering" the standard for public health and safety by the failure to do so in NEPA process.

VII. DOE is responsible for implementing decisions protective of national security in policy-making decisions on Surplus Plutonium. It seems rather obvious that "hybrid alternatives" (some disposal as waste/some recycling) creates considerable vulnerability in accounting for the total 50 metric tons of Pu currently under program disposition consideration.

VIII. DOE (and its predecessor agencies) has historic pattern of under estimating and/or ignoring health risks to citizens when matters of national security appeared to conflict with implementation of other agendas. (See Attachment II.) Furthermore, in practice, such assignment of low value to citizens frequently was done on populations considered to be "low-use." Environmental justice requires that rural and minority members of the general population receive the same degree of consideration and protection from operational and accidental radiological and toxic exposures as other segments of the U.S. citizenry. DOE six candidate sites appear to avoid metropolitan centers in the Northern states, and propose risk at sites within 50 mile radius of rural, Southern populations.

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either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

The remainder of this comment is addressed in response FR013-1.

### FR013-3

### Waste Management

DOE has evaluated waste management in this SPD EIS. As shown in Appendix H and Chapter 4 of Volume I, some additional waste would be generated if DOE decides to convert 33 t (36 tons) of the surplus plutonium to MOX fuel versus immobilizing all of the plutonium. This can be seen by comparing Alternative 2 at Hanford (17 t [19 tons] immobilized and 33 t [36 tons] fabricated into MOX fuel) to Alternative 11A (all 50 t [55 tons] immobilized) or Alternative 3 at SRS to Alternative 12A in Section 2.18. These potential impacts will be considered in DOE's decision, along with other environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

### FR013-4

### General SPD EIS and NEPA Process

DOE has not made or announced decisions that would prejudice the outcome of the NEPA process. DOE has indicated its preference of implementing the hybrid approach to surplus plutonium disposition and locating the three proposed facilities at SRS. However, decisions will be announced in the ROD, and will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. As explained in Section 2.1.3, a contract was awarded to DCS to design, request a license, construct, operate and eventually deactivate the MOX facility, and provide the reactors to irradiate the MOX fuel based on a competitive procurement that included evaluation of environmental impacts. The contract stipulates that there would be no construction, fabrication, or irradiation of MOX fuel until the SPD EIS ROD is issued. Such site-specific activities would depend on decisions in the ROD, and according to the Request for Proposals, DOE's exercise of contract options to allow such activities would be contingent on the ROD.

**FR013-5**

**Human Health Risk**

DOE acknowledges the commentor's remarks concerning NRC policies. However, DOE has no authority in matters pertaining to NRC's policies and practices.

Since the inception of the fissile materials disposition program, DOE has supported a vigorous public participation policy. DOE has conducted public hearings in excess of the minimum required by NEPA regulations to engender a high level of public dialogue on the program. With respect to the reactor sites, DOE prepared a *Supplement to the SPD Draft EIS* that included, among other topics, reactor-specific information that was not available when the SPD Draft EIS was distributed for public review. Efforts were made to contact persons living near the selected reactor sites and inform them of the proposed use of MOX fuel. The *Supplement* was mailed to those stakeholders who requested it as well as to those specified in the DOE *Communications Plan* (i.e., Congressional representatives, State and local officials and agencies, and public interest groups around the United States) and the utilities' contact lists. The utilities, Duke Power Company and Virginia Power Company, would operate the proposed reactors (located in North Carolina, South Carolina, and Virginia) should the MOX approach be pursued per the SPD EIS ROD. For those interested parties who could not attend the hearing on the *Supplement* that was held in Washington, D.C., on June 15, 1999, DOE provided various other means for the public to express their concerns and provide comments: mail, a toll-free telephone and fax line, and the MD Web site. It is DOE policy to encourage public input into these matters of national and international importance.

**FR013-6**

**Human Health Risk**

As discussed in Section 4.28, the increase in risk to the general public and workers associated with the use of MOX fuel is expected to be small. No additional LCFs would be expected from the use of MOX fuel under normal operations at the proposed reactors. The dose to the general public from the continued safe operation of these reactors, regardless of whether MOX fuel is being used, is a very small fraction of natural background radiation and is not expected to result in any additional LCFs in the surrounding communities. In the case of reactor accidents analyzed in Section 4.28, there is a small

increase in risk, about 3 percent, for the large-break loss-of-coolant accident (the limiting design basis accident). The largest increase in risk for severe (beyond-design-basis) accidents is approximately 14 percent for an interfacing systems loss-of-coolant accident at North Anna. Both of these accidents have an extremely low probability of occurrence. At North Anna, the likelihood of a large-break loss-of-coolant accident occurring is 1 chance in 48,000 per year and the likelihood of an interfacing systems loss-of-coolant accident occurring is 1 chance in 4.2 million per year.

**FR013-7****Facility Accidents**

As discussed in response FR013-6, there is an increase in the risks associated with some of the severe reactor accidents analyzed in this SPD EIS. In the case of severe accidents at any of the reactors, the consequences of an accident would be high regardless of whether the reactors were using MOX fuel or LEU fuel. However, the probability of these accidents occurring is very low so the increase in risk to the communities surrounding these plants is not considered significant.

**FR013-8****Nonproliferation**

DOE does not believe that the hybrid approach creates vulnerability in accounting for the surplus plutonium. The proposed DOE surplus plutonium disposition facilities are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. In addition, intersite transportation of plutonium-bearing materials would be made in DOE's SST/SGT system. SST/SGTs are components of an 18-wheel tractor-trailer vehicle that are specially designed to protect against theft or diversion of nuclear materials cargo. The amount of plutonium that would be removed from each pit at the pit conversion facility would be documented, and that documentation carried forward throughout the disposition process, either immobilization or MOX fuel fabrication. None of the plutonium used in MOX fuel would be recycled or reprocessed. It would be used once in the reactor and then treated as any other spent fuel destined for burial in a potential geologic repository.

DOE is required under Presidential Executive Order to avoid conclusion that excess

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IX. DOE attention to matters of considerable national security issues has failed to include the probable potential for sale of fissile materials by its contractors. DOE Oakridge Operations has begun transfer of 3,800 metric tons of Low-Enriched Uranium and Uranium Metal in various forms from the Fernald, Ohio (FEMP) site to the Portsmouth Gaseous Diffusion Plant site for "interim" storage until the materials can be permanently housed or sold based upon an Environmental Assessment only! It would appear rather obvious that United States Enrichment Corporation has considerable likelihood of becoming the "excess fissile/nuclear materials" sales agent in the process.

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DOE has more than ample reason to require stringent accounting for the total Plutonium presently in agency inventory at various sites nationwide from its contractors. It would appear that 50 metric tons of Pu declared as excess inventory is rather arbitrary considering the agency's discrepancies in identifying how much Pu is actually located at various sites nationwide. (See Attachment IV.) DOE is mandated to consider non-proliferation issues as crucial to national security regardless of the "market value" of the fissile material to private interests (who may or may not consider national security as a high priority). (See Attachment V.)

It would appear to run contrary to logic as well as national interests to offer excess Pu (fissile material NOT REQUIRED by foreign powers for civilian nuclear power generation) to foreign powers interested in obtaining global superpower status! China, for example, is reported to have a track record of spreading missile technology to countries who have not at this time achieved nuclear superpower status, including, North Korea, Iran, Saudi Arabia, and Pakistan (Attachment V.). It would seem to run contrary to logic for the Department of Energy to tighten security at national labs, fund anti-missile delivery systems from hostile foreign powers, and, at the same time directly or indirectly allow the sale of nuclear weapons materials to those same powers! The DOE is respectfully requested to avoid any such considerable lapse in logic regardless of private, commercial interests who might potentially benefit.

IN CONCLUSION:

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It is obvious that considerable financial interests would be best served by the

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## FR013-9

## Environmental Justice

Impacts of the proposed activities on minority and low-income populations in the areas surrounding all candidate DOE sites and proposed reactor sites were evaluated in this SPD EIS (see Appendix M and Section 4.28). As discussed in Chapter 4 of Volume I, none of the proposed activities is expected to disproportionately impact these populations.

## FR013-10

## Facility Accidents

Section 4.28 was revised to include reactor-specific information, including accident analyses. The accident frequencies used are based on the rigorous analyses that reactor licensees provided to NRC under oath of affirmation. NRC has reviewed and accepted these licensee analyses as the basis for continued operation of these plants. DOE believes, on that basis, that this information is acceptable for use in this SPD EIS to evaluate the potential impacts of using MOX fuel in the reactors. While it is understood that there are differences from the use of MOX fuel versus LEU fuel, these differences are not expected to result in substantial changes in the frequency of severe accidents in MOX-fueled reactors. Before any MOX fuel is used in the United States, NRC would have to perform a comprehensive safety review that would include information prepared by the reactor plant operators as part of their license amendment applications pursuant to 10 CFR 50.

The remainder of this comment is addressed in response FR013-4.

## FR013-11

## Nonproliferation

No plutonium is being, or will be sold to any entity, foreign or domestic. All the surplus plutonium, including the amount that would be made into MOX fuel, would have stringent accountability, safeguards and security requirements. The primary objective of the surplus plutonium disposition program is to ensure that these materials are never again used in nuclear weapons. The market value of this material is not an issue.

The remainder of this comment is addressed in response FR013-8.

## FR013-12

## MOX Approach

DOE acknowledges the commentor's opposition to the hybrid approach to surplus plutonium disposition. Use of MOX fuel in domestic, commercial

the agency's highest priorities in decision-making and project(s) implementation. As such, the agency must conclude that "recycling" Pu as a valuable energy resource fails to provide long term good judgment in excess Pu management. The cost of waste disposal from a MOX fuel fabrication facility requires considerable further environmental degradation during construction, operation, and shut-down phases. A "one-time run through" requires disposal sites and facilities. The total plan may offer some interests profitable business returns in the short term, however, the agency is required to consider the long term costs financially, environmentally, to public and worker health, and risks from foreign powers to national security. MOX fuel use at 6 proposed nuclear power facilities has potential for disastrous long term costs and consequences. DOE must consider the long term interests of the nation and all its citizens in NEPA and all other decision-making processes over special interests.

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One most obvious example of DOE in cooperation with private enterprise with considerable adverse (and on-going consequences) occurred at DOE and its contractor's site in West Valley, New York. The boundaries of the state of Ohio have, apparently, somehow been re-defined to include West Valley as part of federal facilities sites to be overseen by the Ohio Field Office. DOE is respectfully requested to consider past consequences of private/commercial vendor partnerships in current decision-making. The agency has ample reasons and causes to avoid rather than repeat past errors, and is respectfully requested to do so.

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Thank you for opportunity to comment and participate on what I believe to be a most crucial agency decision-making process. Please provide a list of parties in attendance at the June 15, 1999 hearings and list of parties submitting comments to the agency on or before June 28, 1999 at your earliest convenience. Also, please continue to include my name and mailing address (provided below) on the agency's list of interested parties on Plutonium disposition.

Sincerely,

*Diana I. Cahall*

Diana I. Cahall (Note: restoration of maiden name 2/98, formerly known as Diana Salisbury)

7019 Ashridge Arnheim Road  
Sardinia, Ohio 45171  
(937) 446-2763 telephone and fax

Attachments

*(11 pages total)*

*(202) 586-4078*

VIA TELECOPIER TRANSMISSION TO ~~1-800-896-5156~~ ON JUNE 28, 1999 AT APPROXIMATELY 1:30 P.M.; and by the United States Postal Service, regular mail, postage prepaid on June 28, 1999.

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reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

### FR013-13

### MOXRFP

DOE is working hard to ensure that lessons learned from past experiences are being applied to all of its programs to ensure they are carried out safely and in an environmentally sound manner. West Valley reports to the Ohio Field Office, but there are DOE personnel on-site at West Valley who are in direct control of the activities there. DOE has entered into successful privatization arrangements, and has an initiative to use privatization in its contracting efforts when doing so is of benefit to the U.S. Government and does not compromise health, safety, the environment, or national security.

GAO

United States  
General Accounting Office  
Washington, D.C. 20548

Resources, Community, and  
Economic Development Division

B-280873

November 4, 1998

The Honorable John R. Kasich  
Chairman, Committee on the Budget  
House of Representatives

Dear Mr. Chairman:

For fiscal year 1997, the Department of Energy reported that it had \$20.8 billion in property, some of which is no longer needed to carry out the Department's missions now that the Cold War has ended. The Department reports, for example, that many of the buildings originally designed and constructed to support its defense mission no longer have any ongoing or planned mission. The Department acknowledges that it needs to reduce its inventories of property and equipment and estimates that, for its largest environmental management sites, it spends about 20 percent of its annual budget on maintaining the facilities and infrastructure.

You requested that we review the Department of Energy's efforts to identify and dispose of property that is excess to its needs. Specifically, you asked us to determine (1) the criteria the Department uses to guide the identification and disposal of excess property, (2) the extent to which the Department's property records reflect what is no longer needed to carry out its missions, and (3) the challenges the Department believes exist in identifying excess property and the innovative approaches being used to dispose of this property.

#### Results in Brief

Federal property management regulations include criteria to determine when real property<sup>1</sup> is excess to an agency's needs. However, neither federal property management regulations nor the Department of Energy's regulations and guidance include specific criteria to determine when personal property is no longer needed. When property has been identified as excess, guidelines for the disposal process are well defined for both real and personal property. For example, the Department's property management regulations include guidelines for the screening of excess personal property for reuse within the Department or other federal agencies; for the transferring of lab equipment and computers to schools; and for the sale of property to the public.

<sup>1</sup>Real property includes land, improvements, structures, and permanent fixtures. Personal property includes all other property except for real property and includes such things as government-owned equipment, computers, and motor vehicles.

B-280873

The Department of Energy's property records do not consistently provide information that would help identify property that is no longer needed. Recent changes to the Department's regulations require that property records identify property that has already been determined to be excess. In July 1988, the Department modified its real property records system to identify property that has been determined to be excess. This system also provides additional information, such as the percentage of a facility currently in use, that could be used to identify other property that is no longer needed. Similarly, in May 1988, the Department revised its personal property management regulations to require that contractors' records include information on current usage, such as categorizing property as active, in storage, or excess. However, these regulations do not provide criteria for determining when personal property should be placed in these categories.

The Department of Energy acknowledges problems with its identification and disposal of excess real and personal property. Department officials cited, for example, a lack of funding for the environmental cleanup of the current inventory of excess real property and a lack of incentives to identify property as excess. Because the costs associated with the maintenance and storage of unneeded property are generally not separately identified, little incentive exists to spend the resources necessary to dispose of it. Regardless of the problems, field and program offices have developed some innovative approaches to dispose of property, such as including a performance-based incentive in the site management contract to encourage the contractor operating the site to dispose of excess property during the fiscal year.

### Background

Although most of the Department of Energy's (DOE) real and personal property is under the control of its contractors, several DOE offices have the responsibility for managing this property. Overall, the office of Field Management is responsible for real property management and field oversight, and the office of Procurement and Assistance Management is responsible for personal property. In addition, the Office of Worker and Community Transition directs various efforts regarding the sale or disposition of surplus assets and compiles reports for the Congress on unneeded real and personal property and pilot projects relative to its overall responsibilities. In addition, DOE's program offices, such as the office of Defense Programs, are responsible for declaring property excess to their missions' needs. One program office, Environmental Management, is responsible for the cleanup of contaminated excess property before its

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GAO/RCED-99-3 DOE's Excess Property

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up required?

disposal, DOE's field offices oversee the contractors' efforts to manage the property and maintain the property records.

In its fiscal year 1997 financial statements, DOE reported that it held property, plant, and equipment valued at \$20.8 billion<sup>2</sup>—\$12.0 billion of real property and \$5.2 billion of personal property, with construction work in progress, natural resources, and software accounting for the remaining \$3.6 billion. The property amounts include only those items costing \$25,000 or more. Items that cost less than \$25,000 are expensed for financial statement purposes; DOE contractors held an additional \$3.4 billion of such personal property at the end of fiscal year 1997.

In DOE's fiscal year 1997 Federal Managers' Financial Integrity Act report accompanying its financial statements, the Department indicated that it had extensive inventories of real and personal property that is no longer necessary and that disposal of this property could save future storage, security, and maintenance costs. In addition, DOE reported problems with the management of personal property. For example, the Rocky Flats Field Office in Colorado identified problems that included a contractor's inadequate property records systems, incomplete inventory records, and requests made for new work space while comparable space at the site was being designated as excess. (See the bibliography for a list of GAO and Inspector General reports on DOE property management issues.)

**Federal Regulations  
Provide Guidelines for  
Real Property but  
DOE's Guidance Does  
Not Include Criteria  
for Determining When  
Personal Property Is  
Excess**

Real Property

The federal property management regulations specify that executive agencies should dispose of real and personal property that is excess to their needs and include guidelines for determining when real property is unneeded or underutilized. However, neither the federal regulations nor DOE's guidance includes similar specific guidelines for determining when personal property is excess. In the absence of criteria in the federal regulations, it is left up to each agency to develop guidelines. DOE implements the overall federal regulations for its real property and has issued supplemental regulations for managing personal property. However, DOE's regulations for personal property include no criteria for determining when property is excess.

The federal property management regulations for the utilization and disposal of real property state that each executive agency should survey the real property under its control at least annually to identify property

<sup>2</sup>This represents the depreciated value of the property, plant, and equipment; the acquisition costs were \$46.9 billion.

Attachment II

Part of:  
Radiation  
Experiments  
on Humans

A10 WEDNESDAY, MAY 12, 1999

## Bioethics center opening in Tuskegee

Syphilis untreated  
in old study there

The Associated Press

TUSKEGEE, Ala. — A new bioethics center focusing on medical issues for minorities is opening in the town where black men with syphilis went untreated for 40 years as part of a notorious government study.

*'We expect for the first time to be training and educating significant numbers of African-Americans as bioethicists — something we don't have now.'*

The Tuskegee University National Center for Bioethics in Research and Health Care opens Saturday. Survivors of the experiments, ranging in age from 89 to 109, will be on hand.

'We expect for the first time to be training and educating significant numbers of African-Americans as bioethicists — something we don't have now,' said Benjamin Payton, the university president.

— Benjamin Payton The center was helped by a \$200,000 grant President Clinton announced in 1997, when he apologized on behalf of the government for the syphilis study.

In the 1930s, the federal Public Health Service lured black subjects in Tuskegee with the promise of free health care. A total of 399 men were never told they had syphilis, and researchers monitored how the disease claimed its victims.

By the time the study was exposed in 1972, 28 men had died of syphilis, 100 others were dead of complications, at least 40 wives had been infected and 19 children had contracted the disease at birth.

Tuskegee University, a historically black college known then as Tuskegee Institute, was not involved.

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*The Cincinnati Enquirer*

*Attachment III*

THURSDAY, MAY 13, 1999 A3

## Russia, Cuba may finish nuclear plant U.S. opposes

The Associated Press

MOSCOW — A Russian-Cuban commission is looking into the possibility of completing a partly built nuclear reactor in Cuba, a news report said Wednesday.

Construction of two Soviet-designed, light-water reactors began in the early 1980s, but financial problems in Cuba and the Soviet Union forced a halt to the project, and no more work has been done in recent years despite periodic discussions.

The possibility of setting up a joint venture to complete the Juraguá nuclear plant was the main item on the agenda of the Intergovernmental

Russo-Cuban Commission for Trade, Economic, Scientific and Technical Cooperation, Russia's ITAR-Tass news agency said.

Russia is proposing that two or three other countries be included in the venture, the report said.

The plant would cost \$650 million to \$700 million to complete, earlier news reports said.

The United States opposes the station and considers it a safety risk to Florida and other states along the Gulf of Mexico. Cuba is 90 miles south of Florida.

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## Attachment IV

## SHORT TERM

FROM PAGE 18

neering and Environmental Laboratory alone — enough to make 200 or more nuclear bombs (see table below).

## Conclusion

So long as the politically expedient Yucca Mountain and WIPP programs command the lion's share of resources available for long-term management, no sound solution can be developed for nuclear waste. Hence, it is essential that the US government step back from these repository programs and initiate a much broader effort (see "Considering the Alternatives" article). In the meantime, it is essential that an interim management strategy be implemented that addresses the issues of safe storage, the legitimate complaints of nuclear utilities regarding the federal government's obligations, and the research and development that will be essential for a long-term program. The investment in Yucca Mountain and WIPP need not be thrown away. These facilities could be used for research on repositories using non-radioactive materials, pending approval by the state of New Mexico for WIPP, and by the state of Nevada and the Western Shoshone people in the case of Yucca Mountain. <sup>17</sup>

1 I am grateful to Rochelle Becker, Beatrice Brailsford, Lee Dazey, Yuri Dublyansky, Kay Drey, Harold Fievetson, Steve Frishman, Charles Hollister, David Lochbaum, Michael Marinette, Mary Olson, Auke Pierasma, John Winchester, and Ian Zabarte for their review of a draft of this article and the article on long-term approaches. They may or may not be in agreement with the contents of these articles for which I, as the author, am solely responsible.

2 Transuranic waste is defined by the DOE as containing more than 100 nanocuries per gram of transuranic radionuclides that emit al-

pha radiation and that have half-lives of more than 20 years. The term transuranic refers to all elements that have atomic numbers greater than that of uranium.

3 See for instance, Arjun Makhijani and Scott Saleska, *High Level Dollars, Low-Level Sense* (New York: Apex Press, 1992). See also *Science for Democratic Action* (SDA), Vol. 4 No. 4, Vol. 6 No. 1, and Vol. 7 No. 2, as well as IEEER's report *Containing the Cold War Mess* (for WIPP-related issues). For details regarding one geologic aspect of Yucca Mountain see Yuri Dublyansky, *Fluid Inclusion Studies of Samples from the Exploratory Study Facility, Yucca Mountain, Nevada*, IEEER, December 1998.

4 See IEEER's report *Containing the Cold War Mess*, 1997 by Marc Fioravanti and Arjun Makhijani for a detailed analysis. Also see "Transuranic Waste: TRU and Consequences," SDA Vol. 7 No. 2, p. 7.

5 At a nuclear waste meeting sponsored by the DOE, a utility executive, in a frank expression of the NIMBY syndrome, told the DOE that it had to take the waste from the utilities and "I don't care where you put it." The ground rules of the meeting prohibit disclosure of the identity of the speaker but not what was said. A statement by Scott Peterson of the Nuclear Energy Institute in the *New York Times* provides another illustration: "The industry foremost is looking for movement of fuel," he is quoted as saying. ("Energy Agency Plans Offer to Take Utilities' Nuclear Wastes," *New York Times*, February 25, 1999.)

6 For more information about the use of transmutation as a waste management strategy see "Transmutation not a Repository Alternative," SDA Vol. 6 No. 1, p. 4.

7 For a discussion of waste classification issues, see *High-level Dollars, Low-level Sense*, pp. 22-28 and Chapter 4. Also SDA Vol. 6, No. 1, pp. 8-13.

8 In some instances, such as in severe earthquake zones or on riverine islands, storage near the site may be safer than on site. However, moving the waste would give rise to its own issues and is generally difficult to accomplish.

9 Among the many options that have been proposed are: an MRS at Yucca Mountain; a "private" MRS such as the proposed site on the Skull Valley Goshute reservation in Utah; and storage at a DOE nuclear weapons site. The last is sometimes combined with suggestions that the spent fuel be reprocessed, for instance at the Savannah River Site.

10 Matthew L. Wald, "Plan to Bury Nuclear Waste in Nevada Moves Forward," *New York Times*, Dec. 19, 1998.



## PLUTONIUM IN BURIED WASTE AT SELECTED SITES



Site	Amount of plutonium in buried waste, kilograms	Number of bombs equivalent <sup>a</sup>	Comments
Idaho National Engineering and Environmental Laboratory	1,100 <sup>b</sup>	220	The only site with an estimate that has a discoverable technical rationale
Los Alamos National Laboratory	Unknown	Unknown	Total quantity of plutonium-239 in all Los Alamos waste is possibly 610 or 1375 kilograms. Discrepancy is between two official estimates.
Savannah River Site	250 (unreliable estimate) <sup>c</sup>	50	Does not include plutonium in high-level waste tanks estimated at 382 or 774.6 kilograms. Discrepancy is between two official sources.

Sources: IEEER's 1997 report *Containing the Cold War Mess*, Chapter 2. For discrepancies: Guimond, R.J. and E.H. Becker, Memorandum on Plutonium in Waste Inventories, U.S. DOE, January 30, 1996.

a. We assume that 5 kilograms of plutonium are required for a nuclear bomb. Technologically sophisticated devices can be made with much less.

b. Plutonium-239 plus plutonium-240. Rounded to two significant figures.

c. Plutonium-239 only. Rounded to two significant figures.

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JAMES H. ANDERSON: Cox report shows need for SDI

## Early alert for missile defense

The most disturbing — and overlooked — conclusion to be drawn from the Cox report on Chinese espionage is that China now has the technical information to build missiles capable of overwhelming the Clinton administration's proposed national missile defense.

The White House will not decide until June of next year whether to field such a program. But the deployment timetable is now largely irrelevant because the administration's ground-based missile interceptors would be vulnerable to Chinese countermeasures from Day 1.

Beijing currently has two dozen single-warhead, intercontinental-range weapons, 13 of which are believed to be targeted at U.S. cities. But China is expected to exploit the theft of sophisticated U.S. nuclear-warhead designs to enhance its submarine and mobile missile programs. China likely will develop missiles capable of delivering multiple independently targeted re-entry vehicles and penetrators and such as develop the potential to become a nuclear superpower.

China also has a record of acquiring missile technology to

the Third World, including states such as North Korea, Iran, Saudi Arabia and Pakistan. Last August, North Korea test-fired a three-stage rocket, the Taepo Dong-1, which struck deep in the Pacific Ocean. Now Pyongyang is preparing to test the Taepo Dong-2, which has the potential to reach Alaska, Hawaii and possibly Los Angeles.

The Clinton administration's missile defense plan will be inadequate to meet emerging missile threats, whether from China, North Korea or any other state. The effort to build one, possibly two, ground-based sites would be far more costly and less effective than sea- and space-based alternatives. A ground-based system would have a narrow window of time to intercept missiles tipped with multiple warheads and decoys that have separated from their rocket boosters. Even if the intercept were successful, deadly fallout from a nuclear, chemical or biological weapon would occur.

To counter this threat, the United States should develop defenses to identify, track and shoot down hostile missiles shortly after liftoff, when they are most vulnerable to inter-

ceptors and before they can release their payload. By developing this "boost-phase" intercept capability, the United States will offset the ability of China, or any other country, to endanger Americans with ballistic missiles.

Sea- and space-based defenses hold the greatest promise for achieving a "boost-phase" intercept capability. The United States should begin by upgrading the anti-missile capability of the Navy's Aegis defense system, first deployed over a decade ago to protect the U.S. fleet. Taking advantage of the inherent mobility of sea power, Aegis cruisers could patrol international waters off China and destroy missiles in their boost phase. Eventually, the United States could reinforce its sea-based defenses with space-based interceptors.

The United States could begin developing a robust defense along these lines. But despite the weekend agreement between President Clinton and Russian President Boris Yeltsin to take another look at the 1972 Anti-Ballistic Missile Treaty, it has been the White House's belief that the United States remains legally bound by the treaty, which limits missile

defenses to one fixed site. Some legal scholars and strategists have long believed that the treaty is no longer binding because neither Russia nor any other combination of successor states can fulfill its original purposes.

Congress should ensure that efforts to develop sea- and space-based systems capable of protecting the United States from missile attacks are not constrained by the ABM Treaty. They should require the Defense Department to develop and test a more robust version of the Aegis-based Navy theater-wide anti-missile system. The target missile should have the flight characteristics of real-world intercontinental ballistic missiles, such as those being developed by China.

U.S. anti-missile technologies are improving. Now let's begin work on a national missile defense capable of protecting the United States from the threats the Cox report has disclosed.

Mr. Anderson is a defense policy analyst at The Heritage Foundation, a conservative think tank.

Attachment V

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